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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,018	09/30/2003	Izuru Kanoya	107348-00366	4528

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,018

Applicant(s)

KANOYA ET AL

Examiner

George P. Wyszomierski

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/30/03 (Divisional appl., Prelim.Amdt.).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-7 and 13 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/866,783.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/30/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1742

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Regazzoni et al. (U.S. Patent 5,078,962).

The mean grain size of the magnesium matrix in Regazzoni is below 3 microns, which includes at least a part of the range of 1.0 micron or more as presently claimed. Regazzoni includes aluminum alloy particles having a particle size preferably below 0.5 micron (500 nm), which is consistent with the upper limit of 500 nm for the ultra-fine particles as presently claimed. Thus, all aspects of the claimed invention are held to be fully met by Regazzoni et al.

3. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nussbaum et al. (U.S. Patent 5,147,603).

The magnesium matrix of Nussbaum has a grain size smaller than 3 microns or more advantageously no larger than approximately 1 micron, which includes at least a part of the range of 1.0 micron or more as presently claimed. Nussbaum includes fine metastable globules rich in Al and smaller than 0.1 micron (100 nm), which is consistent with the size of the ultra-fine particles as presently claimed. Thus, all aspects of the claimed invention are held to be fully met by Nussbaum et al.

4. Claims 4 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Schultz (U.S. patent 5,964,965).

Figure 2 of Schultz depicts an embodiment which clearly meets all of the composition and dimensional limitations of the instant claims. Further, the express purpose of the Schultz patent is for the transportation and storage of hydrogen, thereby anticipating the "hydrogen storing tank" of claim 13 as well. Thus, all aspects of the claimed invention are held to be fully met by Schultz et al.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Regazzoni et al., Nussbaum et al., or Schultz et al.

The prior art patents, discussed supra, do not specify the atomic percentage of ultra-fine particles as required by the instant claims. However, note that the disclosures of all of the prior art documents are of alloys wherein the amounts of the alloying elements would appear to overlap the percentages as defined in the present claims; note, for instance, the Abstracts of Regazzoni or Nussbaum, or column 4, lines 20-36 of Schultz. It is a reasonable assumption that this percentage of alloying elements would reflect the percentage of ultra-fine particles present in the prior art structures. Thus, a prima facie case of obviousness is established between the disclosures of Regazzoni et al., Nussbaum et al, or Schultz et al. and the presently claimed invention.

Art Unit: 1742

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Regazzoni et al. or Nussbaum et al.

Neither Regazzoni nor Nussbaum (described in items 2 and 3 supra, respectively) discuss absorbing hydrogen or a hydrogen storing tank. The examiner's position is that the compositions disclosed in the prior art possess at least some ability to absorb hydrogen, and that any particular physical form that the prior art compositions are made into can be defined as a "hydrogen storing tank", in the absence of any more precise definition of this term. Thus, the disclosures of Regazzoni et al. or Nussbaum et al. are held to create a prima facie case of obviousness of the presently claimed invention.

8. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


9. The remainder of the art cited on the attached PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, supra.

Art Unit: 1742

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective July 15, 2005, all patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW
August 16, 2005